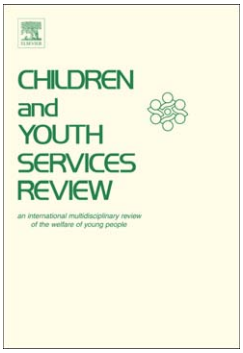

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Adolescent Drinking in Spain: Family Relationship Quality, Rules, Communication, and Behaviors

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Abstract

This study examined associations between adolescent alcohol use in Spain and family relationship quality, parental rules, sources of information about substances, and family behaviors. A sample of 565 students in Alicante, Spain completed measures of these constructs. After controlling for age and type of school, family relationship quality explained 3.7% of the variance in adolescents' alcohol use, family rules explained 7.0%, sources of information 2.8%, and parental behaviors 2.6%. A comprehensive model with all unique predictors from these four models explained 10.6% of the variance in adolescents' alcohol use. Within this final model, higher family relationship quality and parents knowing with whom one goes out at night were uniquely and negatively associated with adolescents' alcohol use, but mothers permitting alcohol consumption and fathers' drinking behaviors were positively associated. These findings suggest the family unit may be ideal for intervening to reduce alcohol use in adolescents in Spain.

Keywords: adolescent alcohol use; adolescent and parent communication; family relationships; intervention/ prevention; Spain

1. Introduction

Alcohol-related fatalities are increasingly common among young people in Europe, such that among 15-29 year olds, alcohol caused 12.8% of male European deaths and 8.3% of female European deaths (Rehm, Gmel, Room, & Frick, 2001). Traffic crashes and self-inflicted injuries are the most common alcohol-related causes of death in Europe for adolescents (Ahlström & Österberg, 2004). In addition to alcohol-related death, adolescents are susceptible to social issues stemming from alcohol consumption, which may include relationship problems, sexual assault, missing school, emotional distress, and other risk behaviors (Ahlström & Österberg, 2004; Windle, 2000). Similar consequences exist for other regions, including the United States, Latin America, Africa, and Asia (Jernigan, 2001). Culture is frequently utilized as a lens to examine adolescent drinking behaviors, as unhealthy patterns of adolescent alcohol consumption throughout Europe and other regions are increasing (Room & Mäkelä, 2000). The highest rates of alcohol consumption have been found in Europe, followed by the Americas (World Health Organization, 2014). The World Health Organization (2014) classifies alcohol consumption in the Western Pacific region and Africa as intermediate, while it notes that the lowest levels of alcohol use are found in the Southeast Asian region and the Eastern Mediterranean region.

Adolescent drinking is becoming a particularly large health concern in Spain, where easy access to alcohol and its social acceptability could be contributing to increased alcohol consumption among Spanish adolescents (Inglés et al., 2007). Spaniards consume alcoholic beverages (typically wine and beer) during family meal times, which has been associated with lower intoxication rates (Hibell et al., 2004; Rehm et al., 2003). However, research has suggested that Spanish adolescents consume alcohol outside of meal times and often drink to intoxication (Ahlström & Österberg, 2004; Gilligan, Kuntsche, & Gmel, 2012). The Spanish Drug

Observatory (Ministerio del Interior, 2001) reports that 40% of adolescents ages 14 to 18 years consume alcohol in public parks and squares on the weekends, with nearly 20% becoming involved in disputes while consuming alcohol, 23.2% riding in cars driven by intoxicated drivers, 7.6% operating vehicles under the influence of alcohol, and 7.1% requiring medical attention for alcohol-related traffic accidents. Spanish adolescents on average begin consuming alcoholic beverages at age 13.9 years (ESTUDES, 2012), and only 25% of 15- and 16-year-old Spanish adolescents in one study had abstained from consuming alcohol in the previous 12 months, indicating that the majority of Spanish adolescents consume alcohol (Hibell et al., 2004). Further, March Cerdá et al. (2010) found that Spanish parents in urban areas do not consider adolescent alcohol consumption to be a problem when consumption is moderate, suggesting that parental and family variables, including family relationship quality, parental rules, communication, and the behavior of family members may be associated with adolescents' drinking behavior in Spain, and as a result, the current study will generally focus on these variables as predictors of adolescent alcohol use.

1.1. Family Relationship Quality

Many public health programs and research studies have begun to focus on parents and their role in influencing adolescent drinking behaviors (Sigfúsdóttir et al. 2009). Indicators of family relationship quality, such as warmth, supportive parental relationships involving supervision and control (Roche et al. 2008; Ryan et al. 2010), positive family dynamics, and bonding (DeVore & Ginsburg, 2005) have all been associated with reduced adolescent alcohol consumption. Similarly, low family conflict, particularly in adolescent girls (Kelly et al. 2011), and lack of serious arguments between parents (Kristjansson, Sigfusdottir, Allegrante, & Helgason, 2009) have been associated with lower adolescent alcohol consumption. On the other

hand, overprotection by parents restricting the independent growth of adolescents has been linked to increased alcohol use (Visser, de Winter, Vollebergh, Verhulst, & Reijneveld, 2013; Creemers et al., 2011).

1.2. Parental Rules

Another family variable shown to be associated with adolescent drinking behavior is parents' rules regarding alcohol consumption, both inside and outside the home. In a study in the Netherlands, alcohol-specific parental rules were the strongest predictor of adolescent alcohol consumption among various parenting practices (De Looze et al., 2012), and another study found that adolescents with parents who permitted drinking in the home were more likely to consume alcohol (Jackson, Henriksen, & Dickinson, 1999). The effects of concrete parental rules regarding alcohol consumption during adolescence have even been found to have lasting associations with less alcohol consumption in early adulthood (Guo, Hawkins, Hill, & Abbott, 2001; van der Vorst, 2005). However, it is important to note that parental influence decreases as adolescents age and they become more autonomous (Kuntsche, Rehm, & Gmel, 2004; Visser et al., 2013). Parents may know less about their adolescents' activities, friends, and whereabouts when not being directly observed as they age, demonstrating decreased parental influence (DeVore et al. 2013). Van der Vorst et al. (2005) noted that parents also become less strict regarding alcohol consumption as their children get older, which could contribute to increased alcohol consumption in late adolescence. This has been corroborated by De Looze et al. (2014), who found that 16-year-olds in the Netherlands drank significantly more alcohol than Dutch adolescents younger than 16 years of age. Research has demonstrated this also holds true for at-risk adolescent populations, including adolescents of low socioeconomic status (Spijkerman, Van den Eijnden, & Huiberts, 2008), adolescents in a special education curriculum (Van Zundert,

Van Der Vorst, Vermulst, & Engels, 2006), and those with genetic vulnerabilities (Van der Zwaluw et al. 2010).

1.3. Parental Communication

A number of studies on parent-child communication have been conducted to investigate whether alcohol-specific communications are associated with decreased alcohol consumption in adolescents in both North America and Europe (Smit, Verdurmen, Monshouwer, & Smit, 2008; Mares, van der Vorst, Engels, & Lichtwarck-Aschoff, 2011). Mothers of adolescents are more likely to have conversations with their adolescents about alcohol consumption than fathers (Van der Vorst et al., 2010), which could be due in part to the finding that adolescents prefer to speak with their mothers about risky topics, such as alcohol consumption (Miller-Day, 2002), despite the fact that fathers of adolescents tend to be more lenient about adolescent drinking (Pettersson, Linden-Bostrom, M., Eriksson, 2009). Yet, when fathers engage in alcohol-specific communication with older adolescents, adolescent drinking behavior is lower (Ennett, Bauman, Foshee, Pemberton, & Hicks, 2001).

Because the amount of direct parental supervision of adolescents decreases as they age, communication between both parties ensures that parents are knowledgeable about adolescents' activities (Jacobson & Crockett, 2000; Jiménez-Iglesias, Moreno, Rivera, & García-Moya, 2013). Parental solicitation and adolescent disclosure of information about their lives are associated with reduced adolescent alcohol consumption (Jiménez-Iglesias, Moreno, Granado-Alcón, & López, 2012; Keijsers et al., 2010; Engels et al., 2010; Marshall, Tilton-Weaver, & Bosdet, 2005). This close parent-child relationship may make parents psychologically present to adolescents when they are tempted to engage in alcohol consumption (Jiménez-Iglesias et al., 2012).

1.4. Family Behaviors

Family alcohol consumption behaviors help define what alcohol-related behaviors are normal to children (DeVore et al., 2005). Parental drinking in the home has been associated with increased alcohol consumption by adolescent children in Spain (Ruiz-Juan & Ruiz-Risueño, 2011), and parental consumption of alcohol has been negatively associated with alcohol-specific parenting (Van Zundert et al., 2006). Paternal alcohol use in particular has been associated with excessive alcohol consumption in adolescents (Ennett et al., 2001), as well as increased adolescent alcohol consumption over time (Van der Vorst et al., 2005; Mares et al., 2011, Seljamo et al., 2006). However, as noted by Poelen et al. (2007), because fathers and mothers often have similar alcohol consumption patterns, it is possible that the drinking behaviors of both parents are equally important.

1.5. Current Study

To date, the majority of studies on adolescent alcohol consumption have been conducted in North America (Kuntsche et al., 2004, Link, 2008) and of those that have studied European nations, few have examined Spain, and as a result, it is uncertain whether the previous findings from other global regions hold in Spain. Because cultural factors (e.g., drinking age, political changes, family variables) may influence drinking behaviors in adolescents, it is important to investigate adolescent drinking beyond North America and Europe generally, as results from these studies may not generalize well to Spanish culture (Link, 2008; Kuntsche et al., 2004). In particular, adolescents in Spain have easy access to alcohol (Inglés et al., 2007), begin consuming alcohol at a young age (Delegación del Gobierno para Plan Nacional sobre Drogas, 2007), and rarely completely abstain from consuming alcohol (Hibell et al., 2004). Because of this unique environment in Spain and the dearth of research investigating these topics there, the

purpose of the current study is to examine the associations between adolescent alcohol consumption in Spain and family relationship quality, parental rules, parental communication, and family behaviors, as these connections have not previously been comprehensively examined in Spain. It is hypothesized that better family relationship quality and more parental rules will be associated with decreased alcohol use, while receiving information about drugs and alcohol from parents and parental use of alcohol will both predict increased use.

2. Material and Methods

2.1. Participants

A total of 640 students from 25 secondary schools (selected using an enumeration procedure from 40 schools total) in Alicante, Spain initially participated in this study. Inclusion criteria for the students in the study were: (1) presence in the classroom on the day of the survey, (2) ability to read and complete the questionnaires themselves, (3) parents having signed informed consent for the student to participate in the survey, and (4) participant assent. The proportion of students who did not meet these inclusion criteria was 11.7%. Participants were retained in the final sample only if they responded to the dependent variable and had at least 78.9% complete data for the independent variables. Missing data for the predictors were then imputed using mean substitution, which for low levels of missing data, as in the current study with the 78.9% cutoff, has been shown to be comparable to more complex methods such as multiple imputation (Parent, 2013). For participants with a missing dichotomous predictor, instead of imputing a 0 or 1, the proportion of 1s across all participants for that single predictor was used as the imputed value which provides a more neutral estimate than imputing a dichotomized value. The final sample consisted of 565 students (52.5% female) from public (57.2%) and private schools in Alicante, Spain ranging in age from 14 to 21 years (M = 16.48,

SD = 0.77). The majority of students were 15-18 years old, with one 14-year-old, three 19-year-olds, and one 21-year old. These four older students were part of a qualification program for students who present learning difficulties and a high ratio of repeating a grade level in school. Because they had reached the age of majority, these four students did not require parental consent to participate in the study, and instead informed consent was obtained directly from these students. Students did not receive compensation for their participation.

2.2. Measures

The Spanish Drug Observatory for Control and Prevention (DGPNSD) on alcohol and other drugs is a national organization managed by the Spanish Government to provide coordination and technical support for development of policies and programs on adolescent substance use in Spain. Since 1994, the Spanish Drug Observatory has conducted an annual national survey among school students aged 14-18 years. In the last national survey conducted in 2012/2013, a total of 27,503 respondents were collected to provide a nationally representative sample within the country. In the present study, students completed the National Students School-Based Drug Survey (ESTUDES) and additional questions contained in the KIDSCREEN-52 questionnaire. The questionnaires used in the present study have been established as valid only age 18 years. When the institutes and schools were selected for the present study, all students were in the age range of 14 to 18 years old, and the vast majority (all but 4 students) remained in this age range at the time of data collection.

2.2.1 ESTUDES

The ESTUDES is a self-administered questionnaire of drug use in adolescents. It contains 90 multiple-choice questions grouped into 3 modules covering the following domains: basic questions (drug use, perceived risk, leisure time, access and availability to obtain drugs, health-

related problems, family drugs consumption, knowledge and attitudes regarding drug use), emerging drugs (perceived risk and accessibility toward new emerging drugs) and cannabis-related problems scales (CAST Cannabis Abuse Screening Test, SDS Severity of Dependence Scale, M-CIDI Composite International Diagnostic Interview). In the present study we only included some of the Basic questions containing module 1 to measure use of alcohol among students, sources of information and family drugs consumption.

The outcome variable for the current study was the number of days over the past 30 days that alcohol was consumed. Responses followed the following Likert-type categories: 0 = No days, 1= One day, 2 = Two days, 3 = Three days, 4 = Four or five days, 5 = Six – nine days, 6 = Ten – nineteen days, 7 = Twenty or more days. Wording for the specific items used to measure family relationship quality, rules, and information can be seen in Table 2. Conflict was assessed using responses of "yes" (1) or "no" (0) as was whether or not parents or siblings provided information about drugs and alcohol to adolescents. Participants indicated the quality of their relationship with parents by selecting 1 (very bad) to 5 (very good). Endorsement of parental rules ranged from 0 (almost never) to 4 (almost always). Parental alcohol consumption over the past 30 days was recorded as "not at all," "only once," "only on the weekends," "all or almost all days in moderation," or "abused alcohol all or almost all days."

2.2.2. KIDSCREEN-52

The Kidscreeen-52 is a self-administered questionnaire for measuring 10 health-related quality of life dimension for children and adolescents (HRQoL) aged 8 to 18 years. The Kidscreen-52 consist of 52 items which cover the following subscales: Physical well-being, Psychological well-being, Moods and emotions, Self-perception, Autonomy, Parent relation and home life, Peers and social support, school environment, Social acceptance and Financial

resources. It requires approximately 15 min to complete. For the purpose of this study, we only included the Relation with Parents and Home Life subscale which examines the adolescent´s relationship with his/her parents and the home climate and includes items such as, "Do your parents have enough time for you?" and "Are you able to talk with your parents when you want to?" Response choices range from 1 (Not at all) to 5 (Very much). Psychometric properties of the Spanish version of the KIDSCREEN-52 have been shown to have adequate validity and reliability (Aymerich et al., 2005) and its cross-cultural comparability have been found satisfactory.

2.3. Procedure

In the present study, a cross-sectional, school-based survey using the National Survey on Drug use among students of Secondary School was conducted in a geographical region located on the east of Spain with a population about 334,000 people. For the purpose of the present study, students 16-20 years old from public and private secondary schools were selected using a stratified random cluster sampling in two stages. In the first stage, all schools were randomly selected with a probability of being selected proportional to size sample. In the second stage, classes were systematically random selected within each school using an enumeration procedure. Data were collected using a self-administered questionnaire (ESTUDES).

This study was approved by the University of Alicante (AYTOALICANTE3-13I). Prior to conducting the study, parents were asked to consent the participation of their children in the survey. Students who were present on the day of data collection and agreed to participate in the study were informed of the purpose of the research and encouraged by the research assistants to provide honest answers. The questionnaires were individually and anonymously completed in written format in the classroom by each student, minimizing the potential for social desirability

in responding to questions about alcohol use. Data were collected by research assistants during the second and third trimester of the 2013/2014 academic year. Data collection lasted from 60-90 minutes.

2.4. Statistical Analyses

A correlation matrix was created to determine which demographic variables were associated with the primary outcome variable, number of days over the past 30 days that alcohol was consumed. Any demographics with significant associations with alcohol consumption were then entered as predictors in Step 1 in each regression in a series of five linear regressions, which all had the same dependent variable of alcohol consumption. These five regressions included the following categories of predictor variables in Step 2, respectively: 1) family relationship quality, 2) rules, 3) sources of information, 4) parental behaviors, and 5) all significant predictors from the previous four regressions.

3. Results

3.1. Correlation between Demographics and Alcohol Consumption

Correlations were calculated to examine the relationships between the demographic variables of age, gender, and type of school (public versus private) with the dependent variable in the successive analyses, number of days alcohol was consumed over the past 30 days. Age (r = .26, p < .001) and type of school (r = -.10, p = .008) were significantly correlated with alcohol consumption such that alcohol consumption increased with age and was less likely for adolescents enrolled in private schools. Gender (r = .02, p = .611) was not significantly correlated with alcohol consumption and was excluded from all further analyses. A correlation matrix was then generated to examine the relationships of all predictor variables in the current study with alcohol consumption (Table 2).

3.2. Family Relationship Quality

The first hierarchical multiple regression tested the hypothesis that family relationship quality would be negatively associated with the number of days in which adolescents consumed alcohol during the past 30 days, after controlling for age and type of school. Age and type of school were entered into the first step of the regression which was statistically significant, $F(2, 562) = 21.29$, $p < .001$, $R^2 = .070$. Age [$\beta = .26$, $p < .001$] was a unique predictor of alcohol consumption such that older adolescents more frequently consumed alcohol, but type of school was not ($\beta = -.03$ $p = .544$). The second step included the following five family relationship quality variables: family conflict, relationship with one's mother, relationship with one's father, receiving affection from one's parents, and the Parent Relation and Home Life subscale from the KIDSCREEN-52. The addition of this step significantly increased the amount of variance explained in alcohol consumption, $\Delta F(5, 557) = 4.64$, $p < .001$, $\Delta R^2 = .037$. The overall model with both steps was statistically significant, $F(7, 557) = 9.59$, $p < .001$, $R^2 = .096$. With the addition of the second step, age remained a unique predictor ($\beta = .25$, $p < .001$), and the only significant family relationship variable was the Parent Relation and Home Life subscale, such that a better relationship with one's parents was associated with lower alcohol consumption ($\beta = -.14$, $p = .008$). No other family relationship quality variables were significant unique predictors (all ps $\geq .485$).

3.3. Rules

A second hierarchical multiple regression was run in the same manner as the above regression but substituting six variables related to rules in the second step: whether one's mother permits alcohol consumption, whether one's father permits alcohol consumption, parents having rules for how one behaves at home, parents having rules for how one behaves outside of the

home, parents knowing with whom one goes out at night, and parents knowing where one goes out at night. The addition of this step significantly increased the amount of variance explained in alcohol consumption, $\Delta F(6, 556) = 7.57$, $p < .001$, $\Delta R^2 = .070$. The overall model with both steps was statistically significant, $F(8, 556) = 11.37$, $p < .001$, $R^2 = .141$. With the addition of the second step, age remained a unique predictor ($\beta = .20$, $p < .001$). One's mother permitting consumption of alcohol ($\beta = .13$, $p = .037$) and having rules in the house ($\beta = .10$, $p = .028$) were significantly associated with higher alcohol consumption, while parents knowing with whom one goes out at night ($\beta = -.13$, $p = .012$) was associated with lower alcohol consumption. No other rule variables were significant unique predictors (all ps $\geq .162$).

3.4. Sources of Information

A third hierarchical multiple regression was run in the same manner as the above regressions but substituting six variables about sources of information about drugs in the second step. The first three variables were endorsements of receiving information about drugs from one's mother, father, or siblings, and the last three variables asked if the best information participants received about drugs came from one's mother, father, or siblings. The addition of this step significantly increased the amount of variance explained in alcohol consumption, $\Delta F(6, 556) = 2.88$, $p = .010$, $\Delta R^2 = .028$. The overall model with both steps was statistically significant, $F(8, 556) = 7.59$, $p < .001$, $R^2 = .098$. With the addition of the second step, age remained a unique predictor ($\beta = .26$, $p < .001$), but no other variables were significant unique predictors (all ps $\geq .062$).

3.5. Parental Behaviors

A fourth regression was run in the same manner as the above regressions but substituting in the second step two variables asking participants to describe their mother's and father's

alcohol consumption. The addition of the second step significantly increased the amount of variance explained in alcohol consumption, $\Delta F(2, 560) = 8.00$, $p < .001$, $\Delta R^2 = .026$. The overall model with both steps was statistically significant, $F(4, 560) = 14.91$, $p < .001$, $R^2 = .096$. With the addition of the second step, age remained a unique predictor ($\beta = .24$, $p < .001$), and respondents' fathers' alcohol consumption ($\beta = .17$, $p = .001$) was a unique predictor, such that increased consumption by one's father predicted increased participant alcohol consumption. Alcohol consumption by one's mother did not uniquely predict respondent alcohol consumption ($\beta = -.01$, $p = .886$).

3.6. Combined

A fifth hierarchical regression included only the significant predictors from the previous regressions, with age in the first step and all other previously significant variables in the second step. The addition of the second step significantly increased the amount of variance explained in alcohol consumption, $\Delta F(5, 558) = 14.406$, $p < .001$, $\Delta R^2 = .106$. The overall model with both steps was statistically significant, $F(6, 558) = 19.88$, $p < .001$, $R^2 = .176$. With the addition of the second step, age remained a unique predictor ($\beta = .20$, $p < .001$). The Parent Relation and Home Life subscale ($\beta = -.15$, $p < .001$) and parents knowing with whom one goes out at night ($\beta = -.12$, $p = .003$) were significant predictors such that a better relationship with one's parents and increased knowledge of with whom their child goes out at night were associated with lower alcohol consumption. One's mother permitting consumption of alcohol ($\beta = .19$, $p < .001$), one's father's drinking behaviors ($\beta = .13$, $p = .001$), and having rules in the home ($\beta = .08$, $p = .05$) were significant predictors such that permission to consume alcohol, increased parental alcohol consumption, and having rules were associated with higher alcohol consumption by participants.

4. Discussion

This study examined the associations between adolescent alcohol use in Spain and family relationship quality, parental rules, sources of information about alcohol and drugs, and family behaviors. After controlling for age and type of school (public vs. private), family relationship quality explained 3.7% of the variance in adolescents' alcohol use, family rules explained 7.0%, sources of information 2.7%, and parental behaviors 9.8%. When all unique predictors from these four models were included in a comprehensive model, they explained 10.6% of the variance in adolescents' alcohol use. Within this final model, higher family relationship quality and parents knowing with whom one goes out at night were uniquely and negatively associated with adolescents' alcohol use, but one's mother permitting consumption of alcohol and one's father's drinking behaviors were both positively associated. These findings are consistent with our hypotheses.

4.1. Demographics

Age and type of school were initially both significantly correlated with alcohol consumption such that alcohol use increased with age, consistent with past findings (Llorens, Barrio, Sanchez, & Suelvas, 2011), and was less likely for adolescents enrolled in private schools. However, when entered into a model with other predictors, type of school was no longer a unique predictor of alcohol use, consistent with past findings (Lopez-Frias et al., 2001). This suggests that prevention efforts should target both public and private schools. Gender was not significantly correlated with alcohol consumption, which was in line with past research finding little to no distinction between the genders for alcohol use (Ahlström & Osterberg, 2004) and may reflect comparable gender roles around alcohol consumption in Spain.

4.2. Family Relationship Quality

Of the family relationship quality variables, only the Parent Relation and Home Life subscale of the KIDSCREEN-52 was a significant predictor of alcohol use, such that a better relationship with one's parent(s) was associated with lower alcohol consumption, consistent with our hypotheses. Previous research has also suggested that parental warmth, supportive parental relationships, positive family dynamics, and bonding with one's parents are associated with reduced adolescent alcohol use (DeVore & Ginsburg, 2005; Roche et al. 2008; Ryan et al. 2010). Family relationship quality broadly defined and as measured by the Parental Relation and Home Life subscale may be a more important predictor of adolescents' alcohol use than the other more specific and isolated indices of family relationship quality included in the regression (family conflict, relationship with one's mother and father, and receiving affection from one's parents), and this may explain why these other variables were not uniquely associated with alcohol use in the regression, although they all were in the bivariate correlations. This suggests that adolescents' relationship with their parents and the home climate (as measured by this subscale) emerged and the most important predictors of adolescents' alcohol use.

4.3. Rules

The hypotheses predicted that parental rules would be negatively associated with adolescent alcohol use, and this was partly supported. The current study found that parental knowledge of with whom their adolescent goes out at night, but not where they go, was uniquely associated with lower alcohol consumption. However, having rules about how to behave outside of the home was not significantly associated with alcohol use, and having rules for behavior in the home actually predicted *increased* alcohol use. The *positive* association between parental rules in the home and adolescent alcohol consumption found in this study, which is in contrast to

previous research (De Looze et al., 2012; van der Vorst, 2005), is likely due to error from a suppressor effect. These two variables were not significantly correlated in the initial correlation matrix, but the relationship became significant in the regression. So the finding in the regression can best be interpreted as a statistical artifact from correlations among the predictors.

The current study also found that permission from one's mother, but not one's father, to consume alcohol predicted higher alcohol use. Previous studies have demonstrated that although fathers tend to be more lenient about adolescent drinking (Pettersson et al. 2009), adolescents prefer to speak with their mothers about risky topics such as alcohol use (Miller-Day, 2002), and perhaps as a result mothers are more likely than fathers to have conversations with adolescents about drinking (Van der Vorst et al. 2005, 2010). This finding highlights the importance of a mother's role in discouraging adolescent alcohol use in her conversations with her adolescent children.

4.4. Sources of Information

It is somewhat surprising that the current study did not find significant unique associations between alcohol use and whether adolescents received information about drugs and alcohol from parents or siblings, thus failing to support the part of the hypotheses for the study. In contrast to the current study, the literature suggests that alcohol-specific communication between adolescents and their parents is associated with reduced adolescent alcohol consumption (Engels et al. 2010 Jiménez-Iglesias et al. 2012). In the current study, this lack of an association may be due to the way in which the data were collected regarding sources of information: adolescents simply responded "yes" or "no" to a series of six items asking whether they had received information about drugs and alcohol from their mothers, fathers, or siblings, or whether the best information they received about drugs and alcohol was from their mothers, fathers, or

siblings. The resulting data do not have detailed information about the amount or quality of the information adolescents received from their family members, nor do the data address whether the information was encouraging or discouraging drug use. There may be distinct differences between parents providing information on how to obtain or use alcohol versus family members providing cautionary information. Therefore, it is important that future studies distinguish between the content and quality of the information provided.

4.5. Parental Behaviors

Increased alcohol consumption by one's father, but not one's mother, uniquely predicted increased adolescent alcohol use, thereby partly supporting the final component of the hypotheses. Past studies have similarly found that paternal alcohol use is associated with adolescent drinking, while the effect is generally absent for mothers' behaviors (Mares et al., 2011; Seljamo et al. 2006; Van der Vorst et al. 2005). As suggested in these studies, the absence of the effect for mothers may reflect less frequent alcohol use in mothers, or it could be due to high correlations between mothers' and fathers' alcohol consumption (Mares et al., 2011; Poelen et al., 2007). Future studies could incorporate direct comparisons between mothers' and fathers' alcohol use to determine whether the absence of the effect of mothers' drinking behaviors on adolescent alcohol use is in fact due to lower rates of drinking or correlations between mothers and fathers consumption.

4.6. Clinical Research Implications

The findings from the present study highlight family contexts in which adolescent alcohol use in Spain may be more likely, spanning the domains of relationship quality, rules, and parental behaviors. If these findings are confirmed in future studies, the family might be targeted as a focus for interventions aiming to reduce alcohol use in adolescents. Past studies have

suggested that implementing alcohol-specific rules in the beginning of adolescence may be one of the most effective ways for parents to help to prevent early onset of alcohol use as well as consumption throughout adolescence (Van der Vorst et al., 2005; Koning et al. 2010; Monshouwer, Smit, De Zwart, Spruit, & Van Ameijden, 2003). Given the early age at which many Spanish adolescents begin consuming alcoholic beverages (Delegación del Gobierno para Plan Nacional sobre Drogas, 2007), early intervention in this region may be critical. While rules about how adolescents behave outside of the home did not uniquely predict alcohol use in the current study, other rule-related behaviors, such as rules inside the home, giving adolescents permission to drink, and having knowledge of with whom adolescents go out at night, were associated with alcohol consumption. In fact, permission from one's mother to consume alcohol was the strongest predictor of alcohol use in the current study, suggesting that parental approval may play an important role in drinking behaviors in Spain. Parents might reduce adolescent alcohol use by talking with their adolescents about responsible alcohol use, adopting stricter policies on drinking, and staying knowledgeable about with whom their children associate at night. Past studies have found small effects on the reduction of adolescent drinking after two years with family interventions focusing on increasing rule setting, parental support, and control (Smit et al., 2008). Future research should evaluate the effectiveness of family interventions targeting parent-adolescent communication about substance use and the enforcement of rules such as curfews.

Parental drinking behaviors were also significant predictors of adolescent alcohol use. Adolescents may look to their parents' alcohol consumption to help define what alcohol-related behaviors are normal (DeVore et al. 2005). Imitation and modeling have been shown to be key determinants of alcohol consumption (Whiteman, Jensen, & Maggs,. 2014), and parents may

therefore want to reduce their alcohol consumption in the home and model alcohol-free social activities. However, in Spain in particular, families tend to consume alcoholic beverages during family meals, which has been associated with lower intoxication rates (Hibell et al. 2004; Rehm et al. 2003). So it may be the modeling of *responsible* alcohol consumption by parents that sets a good example for adolescents. Past studies have generally supported this interpretation that have found parents who drink excessively tend to lack parental control and monitoring (Mares et al. 2011, King & Chassin 2004) and demonstrate lower levels of alcohol-specific parenting (Van Zundert et al. 2006). Clinical intervention studies could evaluate the effectiveness of modeling alcohol-free or alcohol-responsible social activities on reducing adolescent alcohol use in Spain.

4.7. Limitations and Future Directions

There are several limitations in the current study that suggest areas for future research. The study was conducted in a single city in Spain, and therefore, researchers and interventionists must use caution generalizing the findings to other areas in Spain. It would be beneficial for future studies to attempt to replicate these findings in cities across Spain. However, this concern can be tempered slightly due to the large number (25) of high schools from which participants were recruited. A second limitation was that only limited demographic information was collected for participants, so future studies may examine additional variables such as access to alcohol, peer-relationship quality, sexual orientation, and socioeconomic status to see how differences in these domains may affect adolescent alcohol use in Spain. Future studies may examine social network and peer behaviors, as well as individual characteristics such as self-confidence and desire to belong. Third, because the present study was a part of a large-scale study on alcohol abuse funded by the Alicante Municipal Plan on Drug addiction using the National Survey on Drug Use (ESTUDES), many of the variables assessed in the current analysis were derived from

single-item measures, which although a common technique in epidemiological research, is not as strong as using validated multi-item measures of the constructs. Future studies that more comprehensively assess aspects of the family environment may present a more nuanced view of possible determinants of adolescent alcohol use.

Another limitation was that the data were self-reported. Future studies would benefit from having collateral reports to verify the self-reported information. Additionally, the data were cross-sectional, and causation cannot be directly inferred. While the variables examined in this study may lead to adolescent alcohol use, it is equally possible that the reverse causal direction exists. Future research could tease apart causality by using cross-lagged panel methodologies. Finally, although the findings add to the relatively scant research on these topics in Spain, the findings may have limited generalizability to other cultures different from Spain, where norms surrounding adolescent alcohol use may be unique (Inglés et al., 2007). Future studies should replicate the findings in other countries in Europe, as well as in other global regions with potentially different patterns of alcohol consumption.

Third, the questions used in our measures asked about family without defining the term, thus leaving it up to respondents to interpret *family* as they saw fit. Furthermore, there were some questions that specifically asked about mothers, fathers, or parents, and it is possible that some participants could not appropriately respond if they belonged to a family without a mother and/or father. Future studies might include an option such as “Does not apply to me” to ensure accurate data collection. Finally, the questions asking participants to indicate the best source of information about alcohol would ideally have been created in a way in which respondents could only select one option, yet the survey allowed participants to select unlimited sources as “the best” and many participants selected more than one source. While this may not reliably indicate

the sole best source of information, it is equally possible that allowing multiple sources to be named as provided the best information may in fact be more accurate, as participants who indicated multiple sources may truly feel that those sources contributed equally.

Despite these limitations, the present study highlighted the associations between family relationship quality, rules, and parental behaviors with adolescent alcohol use, indicating that the family may be one vehicle for intervening to reduce alcohol use in adolescents in Spain. Increased alcohol consumption by one's father and permission by one's mother to consume alcohol were associated with higher adolescent consumption, while drinking decreased with improved family relationship quality and parental knowledge of with whom one goes out at night. The key takeaway message is that the family may be one target for intervention. Future research should investigate the relative impact of strategies such as having parents talk with their adolescents about alcohol use, model alcohol-free social activities, enforce alcohol-specific rules, and stay knowledgeable of with whom their adolescents go out at night while taking into account other individual and peer factors influencing adolescent alcohol use.

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References

Ahlström, S. K., & Österberg, E.L. (2004). International perspectives on adolescent and young adult drinking. *Alcohol Research and Health, 28*(4), 258-268.

Aymerich, M., Berra, S., Guillamón, I., Herdman, M., Alonso, J., Ravens-Sieberer, U., & Rajmil, L. (2005). Desarrollo de la versión en español del KIDSCREEN, un cuestionario de calidad de vida para la población infantil y adolescente. *Gaceta Sanitaria, 19*(2), 93-102

Creemers, H.E., Harakeh, Z., Dick, D.M., Meyers, J., Vollebergh, W.A., Ormel, J…. Huizink, A.C. (2011). DRD2 and DRD4 in relation to regular alcohol and cannabis use among adolescents: does parenting modify the impact of genetic vulnerability? The TRAILS study. *Drug Alcohol Dependence, 115*, 35-42.

DeVore, E.R., Ginsburg, K.R. (2005). The protective effects of good parenting on adolescents. *Current Opinion in Pediatrics, 17*, 460-465.

Ennett, S. T., Bauman, K. E., Foshee, V. A., Pemberton, M., & Hicks, K. A. (2001). Parent–child communication about adolescent tobacco and alcohol use: What do parents say and does it affect youth behavior? *Journal of Marriage & the Family, 63*, 48−62.

ESTUDES (2012). Encuesta Estatal sobre Uso de Drogas en Enseñanzas Secundarias. Plan Nacional Sobre Drogas. Madrid: Ministerio de Sanidad, Servicios Sociales e Igualdad).

Gilligan, C., Kuntsche, E., & Gmel, G. (2012). Adolescent drinking patterns across countries: Associations with alcohol policies. *Alcohol and Alcoholism, 47*(6), 732-737.

Guo, J., Hawkins, J.D., Hill, K.G., & Abbott, R.D. (2001). Childhood and adolescent predictors of alcohol abuse and dependence in young adulthood. *Journal of Studies on Alcohol, 62*(6), 754-762.

Hibell, B., Andersson, B., Bjarnasson, T., Ahlström, S., Balakireva, O., Kokkevi, A., & Morgan, M. (2004). The ESPAD Report 2003. *Alcohol and other drug use among students in 35 European countries*. Stockholm: The Swedish council for information on alcohol and other drugs (CAN).

Inglés, C. J., Delgado, B., Bautista, R., Torregrosa, M. S., Espada, J. P., García-Fernández, J. M…. Garcia-Lopez, L.J. (2007). Factores psicosociales relaciona- dos con el consumo de alcohol y tabaco en adolescentes españoles. *International Journal of Clinical and Health Psychology, 7*, 403-420.

Jackson, C., Henriksen, L., & Dickinson, D. (1999). Alcohol-specific socialization, parenting behaviors and alcohol use by children. *Journal of Studies on Alcohol, 60*(3), 362-367.

Jacobson, K.C., & Crockett, L.J. (2000). Parental monitoring and adolescent adjustment: An ecological perspective. *Journal of Research on Adolescence, 10,* 65-97.

Jernigan D. H. (2001). *Global Status Report: Alcohol and Young People.* Geneva: World Health Organization.

Jiménez-Iglesias, A., Moreno, C., Rivera, F., & García-Moya, I. (2013). The role of the family in promoting responsible substance use in adolescence. *Journal of Child and Family Studies, 22*, 585-602.

Jiménez-Iglesias, A., Moreno, C., Granado-Alcón, M.C., & López, A. (2012). Parental knowledge and adolescent adjustment (substance use and Health-Related Quality of Life). *The Spanish Journal of Psychology, 15*, 132-144.

Keijsers, L., Branje, S.J.T., VanderValk, I.E., & Meeus, W. (2010). Reciprocal effects between parental solicitation, parental control, adolescent disclosure, and adolescent delinquency. *Journal of Research on Adolescence*, *20*, 88-113.

Kelly, A.B., Toumbourou, J.W., O'Flaherty, M.O., Patton, G.C., Homel, R., Connor, J.P., & Williams, J. (2011). Family relationship quality and early alcohol use: Evidence for gender-specific risk processes. *Journal of Studies on Alcohol and Drugs, 72*, 399-407.

King, K. M., & Chassin, L. (2004). Mediating and moderated effects of adolescent behavioral undercontrol and parenting in the prediction of drug use disorders in emerging adulthood. *Psychology of Addictive Behaviors, 18*, 239−249.

Koning, I.M., Engles, R.C.M.E., Verdurmen, J.E.E., & Vollebergh, W.A.M. (2010). Alcohol-specific socialization practices and alcohol use in Dutch early adolescents. *Journal of Adolescence, 33*, 93-100.

Kristjansson, A.L., Sigfusdottir, I.D., Allegrante, J.P., & Helgason, A.R. (2009). Parental divorce and adolescent cigarette smoking and alcohol use: Assessing the importance of family conflict. *Acta Paediatrica, 98,* 537-542.

Kuntsche, E., Rehm, J., & Gmel, G. (2004). Characteristics of binge drinkers in Europe. *Social Science & Medicine, 59,* 113-127.

Link, T.C. (2008). Youthful intoxication: A cross-cultural study of drinking among German and American adolescents. *Journal of Studies on Alcohol and Drugs, 69*(3), 362-370.

Llorens, N., Barrio, G., Sanchez, A., & Suelvas, J.M. (2011). Effects of socialization and family factors on adolescent excessive drinking in Spain. *Prevention Science, 12*, 150-161.

Lopez-Frias, M., De La Fe Fernandez, M., Planells, E., Miranda, M.T., Mataix, J., & Llopis, J. (2001). Alcohol consumption and academic performance in a population of Spanish high school students. *Journal of Studies on Alcohol, 62*(6), 741-744.

March Cerdá, J.C., Prieto Rodríguez, M.A., Danet, A., Ruiz Azarola, A., García Toyos, N,. & Ruiz Román, P. (2014). Posicionamiento de padres y madres ante el consume de alcohol en poblacion de 12 a 17 anos en el ambito urbano. *Gaceta Sanitaria, 24*(1), 53-58.

Mares, S., van der Vorst, H., Engels, R., & Lichtwarck-Aschoff, A. (2011). Parental alcohol use, alcohol-related problems and alcohol-specific attitudes, alcohol-specific communication, and adolescent excessive alcohol use and alcohol-related problems: An indirect path model. *Addictive Behaviors, 36,* 209-216.

Marshall, S.K., Tilton-Weaver, L.C., & Bosdet, L. (2005). Information management: Considering adolescents' regulation of parental knowledge. *Journal of Adolescence, 28*, 633-647.

Miller-Day, M.A. (2002). Parent-adolescent communication about alcohol, tobacco, and other drug use. *Journal of Adolescent Research, 17*(6), 604-616.

Monshouwer, K., Smit, F., De Zwart, W.M., Spruit, I., & Van Ameijden, E.J.C. (2003). Progress from a first drink to first intoxication: Age of onset, time-windows and risk factors in a Dutch national sample of secondary school students. *Journal of Substance Use, 8,* 155-163.

Parent, M. C. (2013). Handling item-level missing data: Simpler is just as good. *The Counseling Psychologist, 41,* 568-600.

Pettersson, C., Linden-Bostrom, M., & Eriksson, C. (2009). Parental attitudes and behaviour concerning adolescent alcohol consumption: Do sociodemographic factors matter? *Scandinavian Journal of Public Health, 37*, 509-517.

Plan Nacional sobre Drogas (2007). *Observatorio español sobre drogas. Informe 2007.* Madrid: Delegación del Gobierno para el Plan Nacional sobre Drogas.

Poelen, E. A. P., Scholte, R. H. J., Willemsen, G., Boomsma, D. I., & Engels, R. C. M. E. (2007). Drinking by parents, siblings, and friends as predictors of regular alcohol use in adolescents and young adults: A longitudinal twin-family study. *Alcohol and Alcoholism, 42*, 362−369.

Rehm, J., Gmel, G., Room, R., & Frick, U. (2001). Average volume of alcohol consumption, drinking patterns and related burden of mortality in young people in established market economies of Europe. *European Addiction Research, 7*, 148-151.

Rehm, J., Rehn, N., Room, R., Monteiro, M., Gmel, G., Jernigan, D., & Frick, U. (2003). The global distribution of average volume of alcohol consumption and patterns of drinking. *European Addiction Research, 9*, 147-156.

Roche, K. M., Ahmed, S., & Blum, R. W. (2008). Enduring consequences of parenting for risk behaviors from adolescence into early adulthood. *Social Science & Medicine, 66*, 2023–2034.

Room, R., & Mäkelä, K. (2000). Typologies of the Cultural Position of Drinking. *Journal of Studies on Alcohol, 61*(3), 475-483.

Ruiz-Juan, F., & Ruiz-Risueño, J. (2011). Variables predictoras de consume de alcohol entre adolescentes españoles. *Anales de psicología, 27*(2), 350-359.

Ryan, S. M., Jorm, A. F., & Lubman, D. I. (2010). Parenting factors associated with reduced adolescent alcohol use: A systematic review of longitudinal studies. *The Australian and New Zealand Journal of Psychiatry, 44*, 774–783.

Seljamo, S., Aromaa, M., Koivusilta, L., Rautaval, P., Sourander, A., Helenius, H., & Sillanpää, M. (2006). Alcohol use in families: A 15-year prospective follow-up study. *Addiction,*

101, 984-992.

Sigfúsdóttir, I. D., Thorlindsson, T., Kristjánsson, . Á.L., Roe, K. M., & Allegrante, J. P. (2009). Substance use prevention for adolescents: The Icelandic model. *Health Promotion International, 24*, 16–25.

Smit, E., Verdurmen, J., Monshouwer, K., & Smit, F. (2008). Family interventions and their effect on adolescent alcohol use in general populations; A meta-analysis of randomized controlled trials. *Drug and Alcohol Dependence, 97,* 195−206.

Spijkerman, R., Van den Eijnden, R.J.J.M., & Huiberts, A. (2008). Socioeconomic differences in alcohol-specific parenting practices and adolescents' drinking patterns. *European Addition Research, 14,* 26-37.

Van der Vorst, H., Burk, W. J., & Engels, R. C. M. E. (2010). The role of parental alcohol-specific communication in early adolescents' alcohol use. *Drug and Alcohol Dependence, 111*, 183−190.

Van der Vorst, H., Engels, R.C.M.E., Meeus, W., Dekovic, M., & Van Leeuwe, J. (2005). The role of alcohol-specific socialization in adolescents' drinking behaviour. *Addiction, 100,* 1464−1476.

Van der Zwaluw, C.S., Engels, R.C.M.E., Vermulst, A.A., Franke, B., Buitelaar, J., Verkes, R.J., & Scholte, R.H. (2010). Interaction between dopamine D2 receptor genotype and parental rule-setting in adolescent alcohol use: Evidence for a gene-parenting interaction. *Molecular Psychiatry, 15,* 727-735.

Van Zundert, R. M., Van Der Vorst, H., Vermulst, A. A., & Engels, R. C. (2006). Pathways to alcohol use among Dutch students in regular education and education for adolescents with behavioral problems: the role of parental alcohol use, general parenting practices, and alcohol-specific parenting practices. *Journal of Family Psychology, 20,* 456−467.

Visser, L., de Winter, A.F., & Reijneveld, S.A. (2012). The parent-child relationship and adolescent alcohol use: A systematic review of longitudinal studies. *BMC Public Health, 12*, 886.

Visser, L., de Winter, A.F., Vollebergh, W.A.M., Verhulst, & Reijneveld, S.A. (2013). The impact of parenting styles on adolescent alcohol use: The TRAILS study. *European Addiction Research, 19*, 165-172.

Whiteman, S.D., Jensen, A.C., & Maggs, J.L. (2014). Similarities and differences in adolescent siblings' alcohol-related attitudes, use, and delinquency: evidence for convergent and divergent influence processes. *Journal of Youth and Adolescence, 43*, 687-697.

Windle, M. (2000). Parental, sibling, and peer influences on adolescent substance abuse and alcohol problems. *Applied Developmental Science, 4*(2), 98-110.

World Health Organization (2014). *Global status report on alcohol and health*. Geneva. Retrieved from http://apps.who.int/iris/bitstream/10665/112736/1/9789240692763_eng.pdf

Table 1. *Descriptive statistics.*

Variables	Min	Max	*M*	*SD*
# days consumed alcohol (past 30 days)	0	7	1.27	1.67
Conflict	0	1	0.43	0.49
Relationship with your mother	1	5	4.38	0.77
Relationship with your father	1	5	4.12	0.95
Care/ affection from parents	0	4	3.54	0.86
Mother permits alcohol	0	2	0.75	0.73
Father permits alcohol	0	2	0.73	0.73
Rules in-house	0	4	2.81	1.28
Rules outside of home	0	4	2.15	1.35
Parents know with whom go out at night	0	4	3.39	1.05
Parents know where go out at night	0	4	3.19	1.15
Mother's alcohol consumption	1	5	1.98	0.96
Father's alcohol consumption	1	5	2.43	1.01
Receive information about drugs from mother	0	1	0.67	0.47
Receive information about drugs from father	0	1	0.56	0.50
Receive information about drugs from sibling(s)	0	1	0.23	0.44
The best information about drugs is from mother	0	1	0.30	0.46
The best information about drugs is from father	0	1	0.28	0.45
The best information about drugs is from sibling(s)	0	1	0.08	0.27
Family Life Scale	6	30	23.90	4.91

Note: Response options were as follows
days consumed alcohol: 0 = no days, 7 = 30 days
Conflict & questions pertaining to receiving information: 0 = no, 1 = yes
Care: 0 = almost never, 4 = almost always
Permit alcohol: 0 = does not permit, 2 = permits
Quality of relationship with parents: 1 = very bad, 5 = very good
Rules: 0 = almost never, 4 = almost always
Parental alcohol consumption: 0 = not at all, 5 = abused alcohol all or almost all days
Family Life Scale: higher scores indicate better family life

Table 2. *Correlation coefficients and t-test statistics examining the association between alcohol consumption and all predictors*.

Predictors	*r* or *t*	*p*
Demographics		
Age	$r = .26^{**}$	<.001
Public vs private school	$t = 2.42^{*}$	0.02
Family Relationship Quality		
Have you had a conflict with your parents or siblings in the past 12 months?	$t = -2.13^{*}$	0.03
How is your relationship with your mother?	$r = -.13^{**}$	0.001
How is your relationship with your father?	$r = -.15^{**}$	<.001
Do you receive care/ affection from your parents?	$r = -.14^{**}$	0.001
Parent Relation and Home Life subscale	$r = -.20^{**}$	<.001
Rules		
Mother permits alcohol.	$r = .24^{**}$	<.001
Father permits alcohol.	$r = .22^{**}$	<.001
My parents make rules about what I can do in the house.	$r = .06$	0.184
My parents make rules about what I can do outside of the house.	$r = -.09^{*}$	0.04
My parents know with whom I go out at night.	$r = -.18^{**}$	<.001
My parents know where I go out at night.	$r = -.14^{**}$	0.001
Information		
I receive information about drugs from my mother.	$t = -3.03^{**}$	0.003
I receive information about drugs from my father.	$t = -1.90$	0.058
I receive information about drugs from my sibling(s).	$t = -3.22^{**}$	0.007
The best information about drugs is from my mother.	$t = -.78$	0.437
The best information about drugs is from my father.	$t = -.75$	0.451
The best information about drugs is from my sibling(s).	$t = -1.97$	0.049
Parent Drinking Behaviors		
Mother's alcohol consumption	$r = .06$	0.14
Father's alcohol consumption	$r = .18^{**}$	<.001

Table 3. *Predictors of alcohol use in Spanish adolescents.*

Predictors	ΔR^2	β	*p*
Family Relationship Quality	0.037		<.001
Conflict		0.010	0.815
Relationship with mother		-0.036	0.485
Relationship with father		-0.024	0.623
Receive care from parents		-0.022	0.644
Parent Relation & Home Life subscale		-0.14	0.008
Rules	0.07		<.001
Mother permits alcohol		0.13	0.037
Father permits alcohol		0.087	0.162
Parents make rules (in-house)		0.10	0.028
Parents make rules (outside)		-0.034	0.472
Know with whom I go out at night		-0.13	0.012
Know where I go out at night		-0.030	0.560
Information about drugs and alcohol	0.028		0.01
From my mother		0.111	0.062
From my father		0.003	0.963
From my sibling(s)		0.069	0.118
Best information from my mother		-0.004	0.958
Best information from my father		-0.010	0.895
Best information from my sibling(s)		0.070	0.121
Parent Drinking Behaviors	0.026		<.001
Mother's alcohol consumption		-0.01	0.886
Father's alcohol consumption		0.17	0.001

Note: Age (β = .26, p < .001) and type of school (public vs. private; β = -.03 p = .544) were entered in step one of each regression and therefore are controlled for in these β weights.

Table 4. *Final model of predictors of alcohol use in Spanish adolescents.*

Predictors	ΔR^2	β	*P*
Final Model	0.106		<.001
Parent Relation & Home Life subscale		-0.15	<.001
Mother permits alcohol		0.19	<.001
Parents make rules (in-house)		0.08	0.049
Know with whom I go out at night		-0.12	0.003
Father's alcohol consumption		0.13	0.001

Note: Age (β = .20, p < .001) was entered in the first step of the regression.

Highlights

- Examined associations between adolescent alcohol use in Spain and family factors
- Higher family relationship quality and parents knowing with whom one goes out at night were uniquely & negatively associated with adolescents' alcohol use
- Mothers permitting consumption of alcohol and fathers' drinking behaviors were positively associated with adolescents' alcohol use
- Results suggest that the family unit may be one vehicle for intervening to reduce alcohol use in adolescents in Spain